The Future of Peace Operations: A Scenario Analysis, 2020-2030

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The following three scenarios are intended to help the UN Department of Peace Operations (DPO) engage in a structured conversation about the potential risks and strategic options concerning future peace operations. They are based on the U.S. National Intelligence Council's (NIC) 2017 report, *Global Trends Paradox of Progress*, which considers how selected trends, choices, and uncertainties might play out through 2030.[1] The NIC scenarios are concerned with dynamics within countries, including the construction of political order; dynamics between countries in terms of cooperation and conflict; and how powerful actors might balance the trade-offs between managing long-term trends while deriving short-term benefits.

Some trends for the next decade of world politics are already set. We know that the world of 2030 will be more populous and more urbanized, will face more climate-related disruption, and will undergo unprecedented technological advancement. The next decade is also highly likely to witness diverging interests among major powers, ongoing terrorist threats, continued instability in weak states, and the spread of potentially transformative, lethal and disruptive technologies.

The point of scenario analysis is to stimulate fresh perceptions. It therefore focuses on unfamiliar and uncertain futures rather than projecting continuity. As such, none of the following scenarios are predetermined. The choices people make will remain the largest variables shaping the future. Nor are they mutually exclusive; the real future will likely contain elements of each. Yet, all three point to a more volatile world where surprises are frequent and significant, involving economic, societal, geopolitical, and environmental forms of stress. Consequently, they also emphasize building resilience in order to cope.

With this in mind, the plots have been developed to illustrate potential implications for peace operations with reference to three critical uncertainties selected by DPO, namely, trends in financing, the extent of great power cooperation and relationships with the UN's partner organizations, and the changing character of armed conflict (see table 1). To help illuminate these dynamics, the stories reference potential geopolitical contexts in which the UN must operate; conceivable theaters where future peace operations might deploy; possible strategic tasks they might be authorized to undertake; and plausible operational challenges peacekeepers might face. Each scenario is narrated by a fictional character, reflecting on their experiences with peace operations from the vantage point of 2030. The two appendices provide brief summaries of scenario analysis and the purpose of the NIC's *Global Trends* reports. Hopefully, this document can help readers generate a strategic conversation about preparing for the uncertain future of peace operations.

Table 1: Summary of Selected Critical Uncertainties in the Three NIC Scenarios

[1] Available at https://www.dni.gov/index.php/global-trends-home

	NIC Scenario 1 Islands	**NIC Scenario 2 Orbits**	**NIC Scenario 3 Communities**
Financial circumstances	Severe reduction in funds as the UN's financial crisis and global economic recession deepen	Many states increase security-related spending, UN financial crisis dissipates	The UN's financial crisis and global diffusion of power produce a major injection of private finance
Extent of great power cooperation	U.S.-China rivalry limits Security Council options, encouraging others to bandwagon, balance or non-align; ascendancy of non-UN peace operations, some UN support roles	Rivalries between regional powers lead to more armed conflicts; UN requires both traditional and "grey zone" peace operations	States become less important as power diffuses; UN peace operations redesigned in response to new modes of governance; more delivery via public-private partnerships
Character of warfare	Great power wars mix hi-tech and "grey zone" techniques. War in weak states persists but often blurs with organized crime, atrocities, and state repression.	Regional wars mix territorial fait accompli, hi-tech and "grey zone" techniques. War in weak states persists but often blurs with organized crime, atrocities, and state repression.	Less great power warfare but continued focus on counterterrorism. War in weak states persists but often blurs with organized crime, atrocities, and state repression.

SCENARIO 1: ISLANDS

This scenario depicts a future of peace operations caught up in the restructuring of the global economy where long periods of slow or no growth had left many governments facing major difficulties in meeting societal demands. Although some countries found alternative ways to prosper, most governments failed to adjust to these changing economic and technological circumstances. Many turned inward, reduced support for multilateral cooperation, increased protectionist policies and as a result suffered from significantly lower growth rates, large numbers of job displacements, and serious societal divisions. These factors intensified U.S.-China rivalry, which had important impacts on the Security Council's effectiveness, the relationship between UN and non-UN peace operations, and saw some countries seek a new form of non-alignment. The scenario is narrated by a former UN DPO employee who resigned in protest at peacekeepers being used to support predatory governments.

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I'm not an economist but it was obvious that globalization as we knew it was ending as the organizing principle to generate economic growth. There wasn't a single cause. Several factors combined to alter the global economy. First, increasingly stark wealth inequality across but also

within countries fed tensions and pushback against globalization. The rapid diffusion of automation technologies and the revolutionary advances in machine deep-learning disrupted more industries than expected. The displaced workers quickly formed a political constituency that rejected global trade agreements in favor of protecting local industries. This, in turn, impacted trade patterns, which shifted towards regional and bilateral agreements. Additive manufacturing intensified this trend by providing some local producers with a competitive advantage vis-à-vis foreign suppliers, reducing global trade in manufactured goods.

Worsening climate conditions were also attributed to traditional modes of economic growth and increased long-term migration. Despite their massive collective failure to respond to the climate crisis, the nationalist impulse of many governments to boost domestic production further weakened environmental standards. We reached the 1.5^{o}C threshold of global warming temperatures in 2027, quicker than expected. We'll probably be in a 2.5^{o}C world by 2045.

Countries with largely energy-dependent economies, notably Russia and some across the Middle East and South America, suffered additional pressures as energy prices dropped. The COVID-19 pandemic only made things worse, producing three years of severely reduced global travel, slower global trade, and reduced productivity.

Continued support for social safety nets across most of the EU saw its governments cope reasonably well with these pressures. Nevertheless, calls for protectionism grew stronger and the EU's foreign policy priorities focused on its neighbors. China and India struggled to get out of the "middle income trap" and make major headway on environmental sustainability, while the United States remained deeply polarized and turned further inward after the Supreme Court ruled in Trump's favor in the bitterly contested November 2020 election.

In sum, these events produced a more defensive, segmented world as anxious states sought to metaphorically and physically "wall" themselves off from external challenges, becoming "islands" in a sea of volatility. It was in this "sea of volatility" that most the world's subsequent peace operations deployed, essentially providing a form of global riot control.

The key geostrategic dynamic was an intensified U.S.-China rivalry. Politicians and pundits often called it a "Cold War" but it differed significantly from the U.S.-Soviet confrontation: First, it wasn't cold, but saw regular conflict in the "grey zone"—competitive interactions among and within state and non-state actors that fall between the traditional war and peace duality. Nor was it a clash between two systems. Instead, the two states vied to dominate the capitalist system. Ironically, both pushed increasingly illiberal forms of capitalism. Third, it was highly unlikely to end with a clear victor. Initially, the Republican Party sought U.S. national security through a de-coupling strategy—detaching its critical infrastructure from global supply chains based on Chinese manufacturing, including pressurizing countries to reject Chinese 5G technology. But it proved impossible in other areas as the two countries were integrated so thoroughly. Nevertheless, political acrimony intensified, further splintering the global internet, with Beijing and Washington each competing for users and protecting their "digital sovereignty." The United States should have prevailed easily but its leadership credentials and alliance system badly atrophied during Trump's second term.

Persistent squabbling over the origins of COVID-19 further distracted the Security Council, preventing a strong collective security response to the virus. It also limited the Council's effectiveness on a range of important issues, including the authorization of UN peace operations. An older colleague said it reminded her of the decade from 1977 to 1987, when the UN deployed just one new peace operation. This time, the collapse of Venezuela's central government was the only occasion Washington and Beijing agreed to deploy a new UN peacekeeping force to help neighboring Colombia, Guyana and Trinidad & Tobago with border stability issues.

As the U.S.-China rivalry intensified, many UN member states were confronted with a stark choice of whether to bandwagon with their favorite camp or balance against their least preferred hegemon. This included France, Russia, and the UK, each of which ended up significantly changing their traditional relationships with the U.S. and China. Some countries—including Brazil, Ethiopia, Indonesia, and Nigeria—looked to revitalize a reformed non-aligned movement. This subsequently became an important source of UN peacekeepers that were still viewed as broadly impartial.

Of course, U.S-China rivalry didn't stop other actors fighting. Instead, demand for peacekeepers increased, including on the EU's borders and in parts of Africa, the Middle East, and southeast Asia. However, they were deployed by other regional organizations and actors, mainly to help protect embattled governments from some of their own people and/or transnational insurgents, and to help with border security issues as climate-related migration increased significantly. With the waning of U.S. hegemony and liberalism in retreat, it wasn't surprising that some of these peace operations ended up strengthening predatory regimes and building institutions that many locals saw as illegitimate. The UN of "we the states" trumped the UN of "we the peoples" as the Security Council often agreed to provide technical, financial and/or logistical support to regional "stabilization" missions, most of which were essentially regime-protection and counterterrorism operations. But a fragmented Security Council and rather famished UN systems were not well suited to perform either task.

More broadly, as it became clear that the route to prosperity required research and innovation, some governments usefully promoted information-sharing and invested in high-quality education and lifelong learning in science, technology, engineering and mathematics (STEM). The realization that the most creative and innovative solutions usually came through human-machine cooperation rather than through machines alone also helped reverse earlier job losses. These states adopted tax, immigration, and security policies to attract and retain high-tech talent from all over the world. Early investors in Artificial Intelligence (AI) and biotechnologies—for improved healthcare and human enhancements—reaped important benefits, as did those that encouraged hobby-technologists and communities of practice as important sites of innovation. Predictably, however, intellectual property theft and cyber intrusions designed to steal information increased dramatically. This drove some governments to introduce stringent controls that hampered information-sharing and cooperation across the Internets. It also saw a massive increase in geopolitical competition to develop a general AI. Increasingly worried about the machine deep-learning revolution, several great powers began testing offensive cyber capabilities against opponent's weapons systems and critical infrastructure. In their haste, they sidelined efforts to ensure AI safety and regulate its ethical use. The race to build an advanced

fault-tolerant quantum computer also sped-up significantly as states and leading firms looked for ways to influence the architecture of the global information ecosystem.

Naturally, the UN wasn't quick to incorporate elements of the deep-learning revolution into its operations. It was the political implications of the new technologies that caused most of the delay and initial headaches, many of which played out in sometimes acrimonious meetings of the Fifth Committee and C34. Like NATO and the EU before it, the UN and its member states struggled with how to integrate AI collaboration agreements into its MOUs for contributing countries and to streamline mission decision-making processes to better respond to the new "machine-speed" analytics that had become available. Although CPAS 2.0 proved useful for standardized HQ-to-mission analysis, a new system was required to facilitate the necessary standards on labelling and formatting data to enable AI interoperability across most T/PCCs. In contrast, the UN's under-resourced doctrine development and training components struggled with how best to acclimate contributing forces to AI-enabled operations. Like earlier debates about intelligence-sharing, political compromises were needed to enable mutually agreeable ways to share sensitive information among the T/PCCs. By early 2026, AI-enhanced capabilities were improving both the UN's command and control systems and a few military systems in the field. But what worked well in simulated environments and training sometimes failed badly in real operations. I remember a basic computer imaging failure resulted in one of UNIFIL's autonomous logistics convoys crashing into a bus, killing three civilians and injuring dozens. I still think the problem was opting for one of the cheaper contracting firms and not providing enough maintenance and support personnel for the new vehicle fleets.

The other area where we saw both the opportunities and challenges of AI-enabled operations was in the information sphere. Since COVID-19, dealing with "infodemics"—misinformation and disinformation campaigns—became a regular problem for peacekeepers. Our first AI systems helped counter the COVID-19 "infodemic" by building on the UN's Verified initiative. Launched back in 2020, this enabled us to massively increase the volume and reach of trusted, accurate information about the crisis. Inevitably, we soon became targets of disinformation campaigns and conspiracy theories. I still don't know who created the first deepfake videos depicting UN peacekeepers torturing and raping several children in Central African Republic. Nor could we fully attribute the conspiracy theories that said staff at UN HQ were engaged in a pedophilia ring. But we do know the man who shot two UN staff as they were leaving the headquarters compound had a long history of circulating QAnon material and was a vocal supporter of Trump's campaign to remove the UN from New York City.

In the inward-looking world of "islands," it was more difficult to authorize, staff, and fund large UN peace operations. Yet we received regular requests to support various non-UN peace operations launched by other actors. We had to become increasingly selective as the global recession and our own financial crisis deepened. Trump's White House continued to amass major arrears for both the regular and peacekeeping assessments, the latter reaching $2.6 billion by 2024. Much time was also spent dealing with the repercussions of Trump's Executive Order ceasing U.S. support for all UN agencies. Fortunately for the UN, Congress and President Haley's administration didn't implement it but the Republican Party continued its explicitly anti-UN approach. In some countries, populist movements called for their countries to exit the United Nations altogether. Following the U.S. lead, some UN member states stopped paying part or all

of their peacekeeping assessments. Although the financial gap was somewhat offset by several major voluntary contributions, no states publicly committed to significantly increase their rates of assessment for peacekeeping. Others made it clear they could no longer afford to provide peacekeepers without receiving reimbursements for their personnel and equipment.

In sum, the UN Security Council was regularly paralyzed by great power rivalry. Combined with the major restructuring of the global economy, the UN found itself unable to consistently authorize, finance and staff its peace operations. Instead, it was asked to support a variety of stabilization operations led by other organizations but which often propped up illiberal and illegitimate regimes in the "sea of volatility."

SCENARIO 2: ORBITS

This scenario depicts a future in which peace operations face a serious breakdown of international norms and order, and the world taken to the brink of nuclear war before great power cooperation calms some of the most dangerous flashpoints. The central dynamic was regional powers competing intensely to expand their spheres of influence abroad while attempting to maintain stability at home. Rising nationalism and populist leaders changed patterns of armed conflict, fueled the rapid diffusion of emerging disruptive technologies, and reduced global cooperation. Sustained military build-ups, localized arms races, and territorial disputes increased the risk of interstate war as would-be regional hegemons adopted more assertive foreign policies. UN peacekeepers deployed to several frontier conflicts in observation and inter-position roles but faced new challenges from increasingly uncertain escalation dynamics and long-range strike systems. Peacekeepers faced even bigger headaches in adapting to "grey zone" warfare. After narrowly avoiding a nuclear war in south Asia, several major powers found far greater utility in international institutions, including the UN, and ushered in a period of renewed collaboration, especially on arms control. The narrator is a retired Major General and former commander of UN and African Union peace operations in Mali, Cameroon, and Yemen.

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As a soldier, I've always understood the positive power of nationalism. But during the 2020s, its darker side brought us to the brink of catastrophe. Initially, I wasn't too concerned about the increasing emphasis on spheres of influence by countries such as China, Russia, India, Iran, Turkey, Brazil, Nigeria and Ethiopia. I thought each of them had legitimate concerns. Besides, states have always pursued their interests and competed for influence; some turbulence was to be expected. What I did not initially appreciate was how their struggles to maintain stability at home could drive revolutionary and risky policies abroad.

During the early 2020s, rising ethno-nationalism drove new patterns of armed conflict, helped diffuse emerging disruptive technologies, sustained military build-ups and some localized arms races, and reduced global cooperation. As U.S. hegemony weakened, several regional powers adopted more assertive foreign policies in "their" spheres. Despite being elected on a platform of foreign policy restraint, President Biden tried to revamp democracy promotion efforts and employed U.S. forces in a range of activities to uphold international norms, including freedom of navigation operations. China, Russia and Iran all pushed back in their neighborhoods. They were

increasingly illegitimate regimes at home, so invested large sums in non-lethal weaponry and surveillance technologies to maintain order. And because they did not want to appear "weak" abroad, each tried to counter the United States via leapfrog technologies, including AI, synthetic biology, and nano systems, as well as developing new autonomous weapons systems for land, air, sea, and counterspace. They also started developing a new generation of tactical nuclear weapons as arms control regimes weakened.

These developments significantly increased the risk of interstate war, particularly in resource-rich areas and in contested territories and borderlands whose salience was inflated by populist politicians and publics. Warfare in these circumstances was more *diffuse* with belligerents having greater accessibility to instruments of lethal violence. Military drone activity dramatically escalated. By the mid-2020s, over 50 states had sophisticated armed drones, with China supplying most of the non-democracies. But the real explosion was legions of small, autonomous drones capable of sophisticated swarming for both offense and defense. Warfare was also more *diverse*, occurring in multiple domains—including space and cyberspace—and with a wide range of tools, including economic coercion, cyberattacks, information operations and media manipulation, covert operations, and sabotage. The development of new forms of WMD was particularly worrying. It raised the prospect of whether the UN should prepare to conduct more missions to monitor proliferation and perhaps missile capabilities, as UNSCOM had done in relation to Iraq in the 1990s. Finally, wars were more *disruptive*; the aim being to disturb critical infrastructure, societal cohesion, and government functions rather than defeat enemy forces on a battlefield.

Some regional powers adopted a *fait accompli* strategy to quickly seize small pieces of foreign territory. Employing "grey zone" techniques also became common; to sow instability across selected frontiers while staying below the threshold of triggering a full-scale war. Such actions raised the risk of inadvertent escalation, through miscalculation, accident, or misinterpretation of adversary "red lines." I remember the news was full of flashpoints: Russian hackers blamed for cyber intrusions against European financial centers, Ethiopia's new GERD dam systems crippled by malware, Iran launching another missile attack on Saudi energy and desalination facilities, and a collision between a Chinese underwater autonomous vehicle and a Japanese Coast Guard ship patrolling off the Senkaku islands, which killed two crew. Lethal confrontations also became a regular feature of the Indo-Chinese dispute along the contested Line of Actual Control (LOAC). The UN used preventive diplomacy in several of these disputes, including to avoid a major cyberattack triggering war by inciting a conventional military response. It offered both preventive deployments of peacekeepers and its discrete good offices to calm uncertain escalation dynamics. However, the lack of a clear endpoint for "grey zone" activity made it difficult for UN peacekeepers to devise clear exit strategies.

Beyond the major powers seeking to expand their spheres of influence, the UN received a steady stream of requests from some weaker states, either to deploy small peacebuilding and political missions or to support stabilization and counterterrorism operations against various illegal armed groups.

UN peacekeeping thus saw rising demand for both its traditional monitoring and inter-position forces and for new techniques to keep the peace in the "grey zone." In the latter, new tools for

cyber political analysis proved especially important. Propaganda and cyber activity were central to the new wave of disinformation campaigns, which increased in frequency and sophistication along with the number of people confused by misinformation. It became increasingly difficult to determine what was really happening in these contested areas. As peacekeepers we had to understand the information ecosystem and enhance our strategic communications in order to shape it. I'd learned the value of exploiting OSINT from social media platforms such as Facebook, Twitter, Instagram and wikis back in MINUSMA's early years. Back then we relied on the early Silobreaker software. Fortunately, our investment in the next generation of OSINT capture software enabled us to use real-time temporal network analysis of the digital information ecosystem and geo-tagging of social media posts to good effect in most of our missions. These capabilities became even more important when UN peacekeepers were the targets.

In late 2022, a cyberattack shut down the UN's computer systems in New York for nearly two weeks. Advances in our ability to attribute such intrusions led us to suspect it was orchestrated by North Korea but there were also suspicions it was the work of a nonstate group based in the United States. A friend in UN HQ recalled the heated discussions over whether to publicize the findings of that investigation. There had been a similar but smaller scale attack the previous year, which infected UNIFIL's systems. We suspected that attack was carried out by a Russian criminal organization but paid for by Hezbollah. In another case, unknown actors exploited one of MONUSCO's encrypted databases, revealing details of numerous local civilians who had provided peacekeepers with intelligence. Within two weeks, two of them were killed and another kidnapped.

The UN had been preparing for cyberattacks for years, mainly using measures like cyberthreat hunting to discover how hackers could place malware into UN systems, or "honey pots" and "white-hat" hackers to understand our vulnerabilities. Since 2016, the UN's "Digital Blue Helmets" unit in the Office of Information and Communications Technology had worked to enhance our cybersecurity preparedness, resilience and response. But it couldn't cope with the scale and regularity of subsequent intrusions. The shutdown also settled the longstanding arguments about establishing a UN cyber-peacekeeping division, which was launched the following year. Since NATO's 2014 declaration that cyber intrusions could be as harmful to modern societies as a conventional attack, the Security Council received regular complaints about such incidents. By the 2020s they were routine but there was no international mechanism to lead a response. The UN's new cyber-peacekeeping division helped fill the gap.

Originating from MINUSMA's cyber-unit, the UN's cyber-peacekeeping division nearly didn't get established. It was the subject of repeated political battles, ironically the most intense were over which companies would supply the cyber division's critical equipment and infrastructure! Once established it used personnel assigned by Cyber-Contributing Countries/Organizations (CCC/Os), volunteer experts, and UN cyber staff to protect the organization's systems against cyber intrusions. Crucially, the division also acted as an impartial mechanism to investigate claims and counter-claims and attribute responsibility for the numerous cyberattacks that member states brought to the Security Council's attention. More broadly, its personnel monitored major disinformation campaigns and used the Tallinn manual 3.0[2] to guide their efforts to reduce

[2] The Tallinn Manual, currently in version 2.0, is the most comprehensive analysis on how existing international law applies to cyberspace. https://ccdcoe.org/research/tallinn-manual/

tensions between conflict parties around the world, prevent escalation of cyberwars, and help catch global cybercriminals. When invited, the UN's cyber-peacekeepers also helped rebuild government computer systems or critical infrastructure after a damaging attack. Like our debates about civilian protection, there were long discussions over whether, when and how "offensive" cyber capabilities might be used to help maintain international peace and security.

Back in the physical world, three developments during the late 2020s forced the UN to seriously consider what roles it might play to maintain maritime security and freedom of navigation. First, new waves of piracy emerged in several areas, notably the Gulf of Guinea and around Singapore, and nearby states called for help. Second, the U.S. decision to uphold international norms by conducting freedom of navigation operations in sometimes tense neighborhoods often elicited pushback from China, Russia and Iran. Third, India, Pakistan and China all increased at-sea deployments of nuclear weapons in the name of enhancing their strategic deterrence. Instead, the presence of multiple nuclear powers with uncertain doctrine for managing maritime incidents between nuclear-armed vessels significantly increased the risk of miscalculation and inadvertent escalation in the Indian Ocean.

But it was tensions on land between India and Pakistan that brought us to the brink. The spark occurred when Pakistan's new AI military systems misinterpreted signals of Indian troop movements near the Saltoro Ridge as aggressive intent. Noting India's more aggressive stance towards China along the LOAC and now fearing a major Indian conventional attack was imminent, Islamabad conducted a test detonation of one of its new tactical nuclear weapons. Fortunately, U.S. President Harris and China's President Xi both recognized the urgent need for calm and partnered to mediate a truce, confidence-building measures between India and Pakistan, and a new round of arms control talks. This episode ushered in a period of renewed collaboration on arms control and an informal great power concert emerged comprised of the U.S., China, Russia, the EU, Brazil, India, Turkey, the UK, Indonesia, and Nigeria.

In the world of regionalized "orbits," the UN faced a rise in armed conflicts but found niche roles to reassure states of the benefits of international order and help stop "grey zone" conflicts from undermining international norms and escalating into war between major powers. In some respects, Hammarskjöld's vision of "preventive diplomacy" had returned as the UN's primary security role. Investments in new capabilities to perform the traditional tasks of monitoring and interposition paid off. Elsewhere, however, the UN continued to deploy some small political and peacebuilding missions and was regularly asked for assistance by various weak states embroiled in stabilization and counterterrorism operations.

SCENARIO 3: COMMUNITIES

This scenario depicts a future of peace operations where economic and governance trends have broken the capacity of many national governments to cope, creating openings for local governments and private actors, including transnational firms, religious organizations, NGOs, philanthropists, insurgencies, and gangs. The key drivers were the changing nature of power and advances in information and communications technologies (ICT), which empowered an array of nonstate actors. New modes of governance partnerships emerged that significantly influenced

how governments and international organizations worked. They also transformed the design, financing, and composition of peace operations. While some governments successfully engineered power-sharing arrangements with local authorities and private actors to meet societal needs, others resorted to force to quash protests and employed ICT to identify and silence dissidents. A struggle between the "(networked) free world" and "(digital) authoritarians" became a major feature of world politics. At the UN, peace operations went through a transformative period as new public-private partnerships were employed to address a wider set of problems. The narrator is a former Israeli Defense Force officer who spent the late 2020s running a private security firm that provided a range of frontline services to UN peace operations.

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I've seen how even the most committed governments often struggle to meet the needs of their citizens. Global trends in demography, climate and technology made this even more difficult. Government ineffectiveness fed a downward spiral of mistrust, which further diminished the ability of many governments to generate revenue through fees and taxes. More and more people around the world started bypassing their governments and looking to other organizations to provide them with an array of education, financial, commercial, legal, health, and security services. It wasn't just local government that stepped in to provide these services, but also a variety of corporations, religious organizations, NGOs, insurgencies, gangs, and even philanthropists.

States remained key actors in national security but some nonstate groups proved capable of causing severe disruption, especially those with significant funding and well-established networks, sometimes including support from states. Their ability to weaponize new technologies was key. Al-Shabaab were first to kill UN peacekeepers using renovated drones purchased on the open market. Although crude, the IEDs dropped on an UNSOS forward operating base killed four UN personnel, three contractors and caused extensive damage to equipment and fuel supplies. Nonstate groups in the Sahel were also particularly good at exploiting our new tech. I remember being impressed when a UN TCC contingent first deployed counter-artillery radars to warn of incoming rockets and mortar fire. The logical next step took years of debates and trials but eventually the UN approved one of its NATO TCCs to deploy the first Watchtower autonomous weapons system for FOB defense in northern Mali, close to the frontier with Azawad. I think it was April 2027, just four months into its deployment, that hackers sympathetic to AQIM poisoned Watchtower's imaging systems, causing the guard system to incorrectly identify a group of herders as attackers. The subsequent battery fire killed four of them, including a child, along with dozens of their livestock. We took AI safety more seriously after that.

In other realms, diverse public-private partnerships became increasingly common. With them, new modes of governance emerged all over the world: Some governments successfully engineered power-sharing arrangements with local authorities and some leveraged the resources of transnational foundations and charitable organizations to meet the needs of their societies. Liberal democracies that encouraged decentralized governance and public-private partnerships generally adapted best to these new circumstances. Other governments expanded their security services, forcibly quelled internal protests, and employed advanced information technologies to identify, criminalize and silence dissidents. In some countries, subnational entities, and alliances

between them, asserted greater authority in defiance of national institutions. In some of the best cases, leagues of empowered cities became more salient actors as mayors and governors took the lead on priority issues. In the worst cases, violent extremists, criminal gangs, and warlords flourished in areas where national government lost control of certain territory. The UN and other organizations were regularly asked to help "stabilize" the latter cases but the Security Council was well aware of the organization's financial crisis and there was little appetite to authorize another round of large peace operations given the outstanding problems in places like Mali, Central African Republic and the Democratic Republic of Congo.

All this was great for my new career. I went from fighting Hezbollah and Hamas to providing security and tech support to UN (and other) peacekeepers! I liked working with counterparts from all over the world, and the challenge of assembling the best team and products to deliver the contract. Our firm proudly supports the "free world"—the networked group of state, substate, and nonstate entities that work cooperatively to promote respect for individual freedoms, human rights, political reform, environmentally sustainable policies, free trade, and information transparency. My family knows what can happen if you don't stand up to authoritarians.

The pivotal moment came when a critical mass of the UN's member states realized that the financial crisis had made business as usual impossible; the organization had to adapt or become irrelevant. Once the General Assembly allowed private actors—firms, NGOs and individuals—to contribute to the UN's budgets and engage in approved public-private partnerships it sparked a series of major transformations. This included the design, conduct and financing of UN peace operations.

There followed a wave of UN approved public-private partnerships that affected peace operations in one way or another. There were probably more but I recall new partnerships concerning health, monitoring technologies, peacekeeper training, logistics, camp security, and the UN Peace Service.

Dealing with Ebola was a useful trial run for managing the COVID-19 pandemic, which necessitated much greater medical support for peace operations and hiring more specialists in public health management and related fields to strengthen planning. MSF refused the UN's offer but another organization of expeditionary healthcare professionals, Medics4Peace, answered the call. As with Ebola, dealing with COVID-19 involved countering "infodemics" and facilitating public health initiatives by the World Health Organization (WHO) and NGOs. It also required peacekeepers to protect health workers as WHO vaccination teams traveled the world to stem the virus. As COVID-19 continued to restrict movements and made traditional classroom instruction impossible, the UN partnered with the ICRC to provide simulation packages for training peacekeepers in open-world scenarios. This software enabled training on a wide range of situations at the trainee's preferred time and location, and for less money.

The UN also partnered with private firms to deploy new monitoring technologies. The early Earth Geographic Information System (EGIS) partnership enabled UN HQ to receive daily satellite imagery from its partner firm DigitalPlanet—at greatly discounted rates. This was invaluable in monitoring several demilitarized zones and ceasefire lines. Although it was initially very expensive, the UN's collaboration with EarthToday gave it access to the company's

constellation of advanced imaging satellites that delivered continuous real-time video of specific locations on Earth—all enhanced by machine intelligence. This provided UN peacekeepers with video monitoring of remote areas with a delay as short as about one second. In the first six months, these videos helped prevent potentially deadly escalations of incidents in Kashmir, Western Sahara and near the Yemen-Saudi border.

Other partnerships supplied peacekeepers with superior cameras and RPVs, all of which helped them overcome some of the principal challenges of observing remote conflict zones, such as being denied entry, performing relentless and dull work, dealing with hazardous conditions, and sometimes traumatic episodes. These technologies allowed for much smaller missions and reduced personnel costs, although the UN initially under-estimated how many analysts and tech-support teams were needed to sustain and interpret the flow of data. Monitoring technologies were also extended to peacekeepers themselves. I recall some of our medics saying the biometric data gleaned from soldier-borne sensors was particularly helpful for emergency diagnoses in remote locations. Oh yes, and 3D printing! Investment in additive manufacturing capabilities in several UN missions wasn't cheap but it paid dividends in the field. The ability to deposit and fuse layers of materials to build objects in remote locations transformed our logistics capabilities and how we dealt with fleet maintenance and spare parts.

There were also some profound changes in the security realm. It was on the Cameroon-Nigerian border that the first public-private hybrid peace operation deployed, involving a brigade of armed private contractors as well as troops from several neighboring African states. The mission was partly the result of a high-profile media campaign waged by the Nigerian creator of the TokTik social media app. Horrified by images of massacres and forced displacement in western Cameroon, and angered by international inaction, he offered to pay for a private military company to set up "safe havens" for fleeing civilians near the Nigerian border. Shamed into action, Nigeria consented and coordinated the operation but quickly called on the AU and UN for support. The early headlines were very positive. But operational realities were more complicated as the UN struggled to ensure appropriate vetting, predeployment training, and equipment standards of contractor personnel. Problems also arose with interoperability and compliance with international law, especially after an incident where a team of contractors on a long-range patrol killed six civilians, believing they were Cameroonian paramilitaries. Nevertheless, the novel operation prompted a couple of other cases where peacekeepers were authorized to help weak states deal with large refugee populations fleeing violence, notably in northern Uganda and southeastern Bangladesh.

Some weak governments also asked UN peacekeepers to protect key assets, including cultural heritage sites and critical installations such as energy and water infrastructure and environmental conservation projects. The UN also received requests from a number of regional governors and city mayors to help them support anti-gang initiatives by deploying police peacekeepers. The new generation of policing operations involved some familiar elements from previous training missions, robust anti-gang operations as seen in Haiti, and executive-style policing as seen in Kosovo and Bosnia. But solutions proved impossible in cases where the majority of residents thought the local criminals were more legitimate than many of the local cops.

We had a similar challenge in UNMIK2 (the UN Mission in Kinshasa). Less than two years after MONUSCO had withdrawn, my firm was part of the mission to help calm protests and rioting after the December 2025 "elections." Unofficially, part of our job was to stop the presidential guard and special police killing many of the protesters in cold blood! The concentration of political power, people, and economic and symbolic resources made Kinshasa the country's key battleground. Its density, heterogeneity and large socioeconomic inequalities facilitated instability and offered hiding places and anonymity to some of the opposition ring-leaders. The city's infrastructure affected our ability to move, communicate and monitor surrounding areas, as well as providing concealed vantage points for potential attackers. In sum, it negated many of our technological advantages but it was also an important testing ground for some of our new non-lethal weapons technologies, including our sound energy Long-Range Acoustic Devices, Active Denial Systems, and the gen2 electronic stun systems. One of my firm's proudest hours came when our electronic vehicle-stoppers disabled a nighttime VBIED attack on a UN post on the outskirts of Gombe.

Finally, the UN also looked beyond states to build greater civilian capacities for its peace operations. Despite much initial skepticism, the new UN Peace Service attracted large numbers of young and older people willing to serve as volunteers in UN peace operations. Some countries even agreed to make a two-year stint an alternative to national service. By 2027, over 300,000 people were on the Peace Service roster, with over 15,000 available for rapid deployment spanning all the official civilian skillsets. It was particularly noticeable that many young Americans applied to serve after Trump's administration closed down the U.S. Peace Corps. Initially, the UN modelled its activities on the roles played by the NGO Nonviolent Peaceforce, especially in South Sudan. It also started to attract financial investors as more people saw it as a useful addition to their CVs or a fulfilling way to transition into retirement.

In sum, the world of increasingly networked "communities" challenged the dominance of the sovereign state. As an organization of states operating in an increasingly nonstate world, the UN was forced to adapt. But it did, and the early signs were encouraging. The UN's new operating model gave it access to financial support and capabilities from a range of nonstate actors, enabled it to play significant roles responding to some of the world's most pressing challenges, and made it a salient venue for debating the new modes of governance that started to develop. Peace operations began to adapt too and took on a wider range of tasks than ever before.

Appendix 1: Scenario Analysis: A Brief Summary

Scenarios are stories used to depict plausible futures. Like good science fiction, these stories have elements embedded in present–day trends. Drawn from the theatrical term describing the script for a play or film, scenarios were classically defined as "a tool for ordering one's perceptions about alternative future environments in which one's decisions might be played out."[3]

Despite looking into the future, scenario analysis is not the same as forecasting or prediction. Scenario analysis is not about trying to accurately identify the most probable future. Nor is it

[3] Peter Schwartz, *The Art of the Long View: Planning for the Future in an Uncertain World* (Crown Business, 1996), p.4.

about selecting a desirable future and hoping that it comes about. Rather, the purpose of scenario analysis is to help organizations "make strategic decisions that will be sound for all plausible futures."[4]

Scenario analysis can do this by encouraging organizations to challenge existing "mental models" and help lift the most prevalent "blinders" that limit creativity and resourcefulness. Scenarios are therefore first and foremost mechanisms to help people learn, reperceive the world around them and the critical factors that will influence continuity and/or change, and prepare for what the future holds. Compared to judgmental types of forecasting, prediction and early warning, scenario analysis is usually best employed to grapple with longer-term trends and uncertainties, commonly over a decade or more. However, the appropriate time-scale will be set by the organization's particular problem-set. Scenarios aren't helpful with linear planning processes, where things are relatively clear in terms of resources, dates etc. Scenarios are useful for thinking through big, uncertain, and complex changes.

Scenario analysis can help decision-makers with issues of substance and process. Substantively, they can help deal with uncertainty and complexity, and planning a proactive way forward. In terms of process, the collaborative method can help groups develop a shared understanding of challenges and opportunities that may lie ahead. A generic process of generating scenarios would typically involve six steps:

1. *Team recruitment*: form a diverse team, including unorthodox thinkers and selected outsiders, and set the tone for an imaginative and inclusive process.
2. *Decision focus*: identify a key decision facing the organization or a possibility that becomes a fact. Agree on a timeframe and get buy-in from the organization's leadership.
3. *Environmental factors*: categorize key external factors and driving forces that will affect the issue in question. Assess which are predetermined elements and which are critical uncertainties.
4. *Critical Uncertainties*: decide as a group on the two key uncertainties.
5. *Scenario Development*: design the plots; usually more than three becomes unwieldy.
6. *Implications*: assess the implications for your organization and develop a monitoring plan.

Appendix 2: The U.S. National Intelligence Council's *Global Trends* Reports

Roughly every four years since 1997, the U.S. NIC has published an unclassified strategic assessment of how key trends and uncertainties might shape the world over the next 20 years.[5] They are based on extensive and collaborative research and consultations across both the U.S. intelligence community and many other actors around the world. In recent years the reports have been based around a few global scenarios designed to help senior U.S. leaders think and plan for the longer term. The reports are timed to help inform the administration of a newly elected US President. They are intended to be particularly useful for sparkling discussions about key assumptions, priorities, and choices facing the U.S. national security community.

The overarching conclusion of the NIC's 2017 report, *Global Trends: Paradox of Progress*, is that "the changing nature of power is increasing stress both within countries and between

[4] Ibid., p.xiv.
[5] Most NIC Global Trends reports are here: https://www.dni.gov/index.php/digital-extras/previous-reports

countries, and bearing on vexing transnational issues." The full report and supporting analysis runs to 235 pages.

In its global trends reports, the NIC uses scenarios to achieve several goals:

- To help start a strategic conversation about preparing for future challenges and opportunities.
- To challenge unstated assumptions about the future, and reveal new possibilities and choices.
- To tell stories "grounded enough to feel plausible, while imaginative enough to challenge our assumptions."
- To flesh out some of the details of three future worlds. These worlds are not necessarily mutually exclusive since the future will probably include elements from each.

As a U.S. intelligence community product, its principal focus is postulating alternative responses to near-term volatility at national, regional, substate and transnational levels, and to consider alternative U.S. responses to these trends.